REMARKS

Claims 1-30 are pending in the present application. In the Office Action mailed April 28, 2003, the Examiner rejected claims 1-3, 8, 10, 13-16, 21, 22, 24, and 28 under 35 U.S.C. §103(a) as being unpatentable over Nerreter (USP 6,525,537), and further in view of Takamori et al. (USP 6,043,653). Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Nerreter in view of Takamori et al., and further in view of Burson (USP 6,101,827). The Examiner next rejected claims 4-7, 11-12, 17-20, 23, 25-27, 29, and 30 under 35 U.S.C. §103(a) as being unpatentable over Nerreter in view of Takamori et al. and further in view of Harpster (USP 5,485,754).

The Examiner rejected claims 1-3, 8, 10, 13-16, 21, 22, 24, and 28 under 35 U.S.C. §103(a) as being unpatentable over Nerreter in view of Takamori et al. The Examiner states that Nerreter teaches a cooling system having a cooling tube assembly to transfer heat from an electrical coil, a heat exchanger to transfer heat from the coolant to a desired temperature, and a control feedback system to dynamically adjust the coolant temperature. The Examiner further states that Nerreter "teaches [a] coolant flow control valve to control and adjust coolant flow to the cooling system." Office Action, p. 4. Applicant disagrees.

Regarding claims 1 and 10, Nerreter, contrary to the assertions of the Examiner, does not teach a control feedback system to dynamically adjust the flow rate the coolant temperature. In fact, Nerreter explicitly teaches "a pump 8 that effects a constant flow rate of the cooling fluid" through a coolant circulation system. Col. 3, lns. 49-50. That is, coolant flow through the circulation system taught by Nerreter remains constant and therefore does not change with changes in coolant temperature, coolant pressure, or the like. Applicant agrees that Nerreter teaches control of a cold compressor between an ON state and an OFF state. However, the compressor affects the temperature of the coolant for passing from a refrigeration system to the circulation system and does not affect flow rate of the coolant. Further, in light of Nerreter's direct teaching of a constant flow rate pump, it is inconsistent and inapposite of that taught to conclude that Nerreter suggests variable rate coolant flow. As such, Applicant believes, notwithstanding the teachings of Takamori et al., that independent claims 1 and 10 which have been amended to call for adjusting or varying the rate of coolant flow to be patentably distinct from that taught or suggested by Nerreter and/or Takamori et al.

Claims 21 and 28 has been amended to call for, in part, adjusting an internal pressure in an enclosure in response to feedback received as to an indication of internal pressure in the sealed

enclosure. Contrary to the assertions of the Examiner, none of the references, taken singly or in combination, teach such dynamic control.

By the Examiner's admission, Nerreter fails to teach or suggest "a coolant tube enclosure to adjust the internal dew point less than that of surrounding atmosphere." Office Action, p. 2. As such, the Examiner relies upon Takamori et al. for teaching of a vacuum pump to adjust the internal pressure of an enclosure thereby adjusting dew point to a value less than the surroundings. However, neither Nerreter nor Takamori et al. teach or suggest controlling a vacuum pump based on sensory feedback.

Specifically, Takamori et al., teaches a pump that is "actuated in order to exhaust the closed space CS surrounding the gradient coil unit 23." Takamori et al., col. 9, lns. 1-2. That is, Takamori et al. teaches only that the vacuum pump is actuated to exhaust the closed space. Takamori et al. neither teaches nor suggests under what conditions the vacuum pump is actuated. Takamori et al. does not teach a feedback control for the actuation of the vacuum pump if the internal pressure of the enclosure is not within desired operating conditions. That is, Takamori et al. does not teach or suggest a control system to receive a feedback indicative of the internal pressure in the enclosure and to adjust the internal pressure to a desired internal pressure via the vacuum pump if needed. Takamori et al. simply and only teaches driving of the pump to create a vacuum in a closed space but neither teaches nor suggests that pump is driven based on feedback to the internal pressure in the closed space.

In contrast, the inventions of claims 21 and 28 each positively call for dynamic control of a vacuum pump based on feedback regarding an internal pressure of an enclosure. As such, neither Nerreter nor Takamori et al., taken singly or in combination, teach that which is presently claimed. Accordingly, Applicant believes that which is called for in claims 21 and 28, as well as those depending therefrom, to be patentably distinct from the art of record. Allowance thereof is requested.

Regarding the rejection of claim 9, Applicant respectfully disagrees with the Examiner with respect to the art as applied, but in light of claim 9 dependent from what is believed an otherwise allowable claim, Applicant does not believe additional remarks are necessary and requests allowance of claim 9 pursuant to the chain of dependency.

The Examiner then rejected claims 4-7, 11, 12, 17-20, 23, 25 27, 29, and 30 as being unpatentable over Nerreter in view of Takamori et al. and further in view of Harpster. For the sake of brevity, Applicant will briefly address the rejection of independent claims 17 and 25.

Regarding claim 17, Applicant respectfully refers and incorporates herein the remarks set forth above with respect to the rejection of claims 21 and 28. Specifically, neither Nerreter nor Takamori et al. teach or suggest dynamic control of a vacuum pump based on internal pressure feedback. Moreover, the Examiner's reliance on Harpster fails to establish a prima facie case of obviousness. Specifically, the inclusion of Harpster with Nerreter and Takamori et al. fails to teach or suggest each element of the claimed invention. That is, Harpster, which teaches a pressure sensor system, "relates to the measurement of flow rates of gas/water vapor mixtures through conduit and more particularly to the measurement of the gas component and the water vapor component under vacuum flow conditions in the conduit." Harpster, col. 1, lns. 9-13. Harpster teaches a pressure sensor 48 connected to a processor 42. Id., col. 5, lns. 10-12. Pressure 58 is known because of sensor 48. Id., col. 5, lns. 20-21. Pressure 58, water vapor density 56, and air mass flow rate 54 are used to determine the water vapor mass flow rate. Harpster further teaches a pressure sensor 72 associated with a readout 80. Id., col. 6, lns. 16-18. Readout 80 helps to establish and maintain constant a vacuum within an isothermal tank 74. Id., col. 6, lns. 5-22.

Although Harpster teaches a pressure sensor to sense pressure in a vacuum, there is no teaching or suggestion in Harpster to control a vacuum pump using the value from the sensor in a feedback control. Harpster teaches that a pressure sensor value can be combined with water vapor density air mass flow rate to determine the water vapor mass flow rate and that a pressure sensor can be connected to a readout. Harpster, however, neither teaches nor suggests that feedback is provided from the readout to control the vacuum pump. In fact, as best shown in Fig. 3 of '754, Harpster teaches that the pressure sensor (72) is not connected to pump (84) or that readout (80) is connected to pump (84). Thus, Takamori et al. in combination with Harpster fails to teach or suggest a controller connected to receive pressure signals from a pressure sensor and to control a vacuum pump to maintain a vacuum within a chamber from those signals.

Regarding claim 25, neither Takamori et al. nor Harpster teaches a variable flow rate pump whereas claim 25 has been amended to call for variable rate coolant flow. As such, that which is called for in claim 25 is neither taught nor suggested by the art of record. Allowance thereof is requested.

Therefore, in light of the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-7, 9-12 and 14-30.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

J. Mark Wilkinson
Registration No. 48,865
Direct: (262)-376-5016
jmw@zpspatents.com

Dated: June 30, 2003
Attorney Docket No.: GEMS8081.066

P.O. ADDRESS:
Ziolkowski Patent Solutions Group, LLC
14135 North Cedarburg Road
Mequon, WI 53097-1416
262-376-5170

Transmission Result Report (MemoryTX) (Jun. 30. 2003 7:42PM)

Date/Time: Jun.30. 2003 7:39PM

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E.3) No answer
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Patent
Attorney Docket No. GEMS8081/066

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Dmoric et al.
Serial No.	:	09/681,667
Filed	:	June 12, 2001
For	:	Method and System to Regulate Cooling of a Medical Imaging
Group Art No.	:	2859
Examiner	:	Shrivastav, B.

CERTIFICATION UNDER 37 CFR 1.8(a) and 1.10

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37 CFR 1.8(a) 37 CFR 1.10

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transmitted by Facsimile to Fax No.: 703-308-7722 addressed to Examiner Shrivastav of the Patent and Trademark Office

Date: 6/30/2003

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT/RESPONSE TO 4-28-03 OFFICE ACTION

Dear Sir:

Responsive to the Office Action mailed April 28, 2003, please amend the Application as follows.

* * * Transmission Result Report (MemoryTX) (Jan. 6. 2004 10:59AM) * * *

Date/Time: Jan. 6. 2004 10:56AM

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E. 2) Busy
E. 4) No facsimile connection

Patent
Attorney Docket No. GEM S8051 066

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	Bonesu et al.
Serial No	:	09/681,467
Filed	:	June 13, 2001
For	:	Method and System to Regulate Cooling of a Medical Imaging
Group Art No.	:	2859
Examiner	:	Shrivastav, B.

CERTIFICATION [illegible]

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37 CFR 1.8(a) 37 CFR 1.10

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Date: 1-6-04 [signature] Signature

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION TO WITHDRAW HOLDING OF ABANDONMENT

Dear Sir:

Responsive to the Notice of Abandonment mailed December 30, 2003, Applicant hereby petitions for withdrawal of the Examiner's holding of abandonment. The Notice of December 30, 2003 states that the present application is abandoned "in view of [:] Applicant's failure to timely file a proper reply to the Office letter mailed on 28 April 2003." Applicant contends, however, that a proper reply to the Office Action of April 28, 2003 was, in fact, filed and, therefore, the holding of abandonment is in error.

Enclosed please find a copy of the Amendment/Response that was filed with the USPTO on June 30, 2003 by facsimile transmission. A copy of the facsimile transmission confirmation

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